

EVALUATION FINDINGS
FOR THE
GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE
DECEMBER 2001 THROUGH APRIL 2005

September 2005

Office of Ocean and Coastal Resource Management
National Ocean Service
National Oceanic and Atmospheric Administration
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I. INTRODUCTION

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS), a network of reserves that are protected for long-term research, environmental monitoring, education, and coastal stewardship. Sections 312 and 315 of the CZMA require NOAA's Office of Ocean and Coastal Resource Management (OCRM) to conduct periodic performance reviews or evaluations of federally designated national estuarine research reserves (NERRs). This document describes the evaluation findings of the Director of NOAA's OCRM with respect to the operation and management of the Great Bay National Estuarine Research Reserve (GBNERR or Reserve) by the New Hampshire Fish and Game Department (FGD) during the period of December 2001 through April 2005. It contains a description of the review procedures, a description of the program, evaluation findings, major accomplishments during the review period, recommendations, a conclusion, and appendices.

The recommendations made by this evaluation appear in **bold** type and follow the section of the findings in which the facts relevant to the recommendation are discussed. The recommendations may be of two types:

Necessary Actions address programmatic requirements and must be carried out by the date(s) specified;

Program Suggestions describe actions that OCRM believes would improve the program, but which are not mandatory at this time. If no dates are indicated, the State is expected to have considered these Program Suggestions by the time of the next CZMA §312 evaluation.

Failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). Program Suggestions that must be reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. NOAA will consider the findings in this evaluation document in making future financial award decisions relative to the Great Bay NERR.

It is the fundamental conclusion of this evaluation that the GBNERR is successfully implementing and enforcing its federally approved program and is adhering to its programmatic obligations defined by the terms of federal financial assistance awards and NERR System regulations under Section 315 of the CZMA. This document contains three (3) recommendations that take the form of Necessary Actions that are mandatory and must be completed by the identified deadline and three (3) Program Suggestions that denote actions OCRM believes the State should take to improve the program, but which are not mandatory at this time.

II. REVIEW PROCEDURES

A. OVERVIEW

The Office of Ocean and Coastal Resource Management (OCRM) evaluation staff began its review of the Great Bay NERR in January 2005. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of concern;
- A site visit to New Hampshire, including interviews and a public meeting;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of necessary actions specified in the draft document.

B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: 1) the GBNERR federally-approved Environmental Impact Statement, management plan, and program documents; 2) financial assistance awards, performance reports, and work products; 3) official correspondence between the program and OCRM; 4) the previous §312 evaluation findings; and 5) other relevant information.

Based on this review and on discussions with the OCRM Estuarine Reserves Division staff, the evaluation team identified the following priority issues:

- status of Reserve staffing and needs;
- status of state and FGD financial support for the Reserve;
- status of general administration of the Reserve and the management plan revision;
- facilities development and land acquisition efforts;
- status of implementation of the Reserve's research, monitoring, and education programs;
- the manner in which the Reserve coordinates with other governmental and non-governmental organizations and programs in the state and region;
- major accomplishments during the review period; and
- how the Reserve has addressed recommendations in the Section 312 findings released in 2002.

C. SITE VISIT TO NEW HAMPSHIRE

Notification of the scheduled evaluation was sent to the New Hampshire Fish and Game Department (FGD), the GBNERR, relevant federal agencies, and the New Hampshire congressional delegation. The GBNERR published notification of the evaluation and scheduled public meeting. In addition, a notice of NOAA's "Intent to Evaluate" was published in the *Federal Register* on March 9, 2005.

The site visit to New Hampshire was conducted from April 26-28, 2005. The evaluation team consisted of Ms. L. Christine McCay, Evaluation Team Leader, OCRM National Policy and Evaluation Division; Ms. Doris Grimm, Program Specialist, OCRM Estuarine Reserves Division; and Dr. William Reay, Manager, Chesapeake Bay-Virginia National Estuarine Research Reserve.

During the site visit, the evaluation team met with GBNERR staff, senior New Hampshire FGD agency staff and other state officials, local government officials, civic group representatives, and non-governmental organizations. Appendix A contains a listing of individuals contacted during this review.

As required by the CZMA, a public meeting was held on Wednesday, April 27, 2005, at 7:00 p.m., at the New Hampshire Fish and Game Department, Region 3 Office, 225 Main Street, Durham, New Hampshire, where members of the general public were given the opportunity to express their opinions about the overall operation and management of the Great Bay NERR. Appendix B lists persons who attended the public meeting.

Written comments are also accepted. Appendix C contains responses to written comments received in response to the evaluation.

The Great Bay NERR manager and staff were crucial in setting up meetings and arranging logistics for the evaluation site visit. Their support is most gratefully acknowledged.

III. RESERVE PROGRAM DESCRIPTION

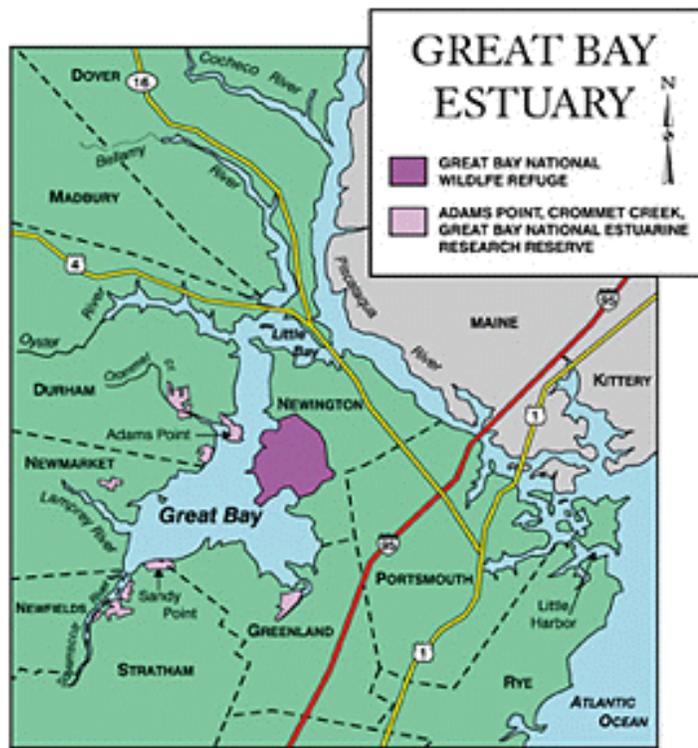
A. THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The Coastal Zone Management Act of 1972, as amended, established a system of National Estuarine Research Reserves that are funded cooperatively by NOAA's Office of Ocean and Coastal Resource Management and the host states or territories, which also manage the reserves. The Reserve Program has two primary missions: (1) to establish and maintain, through federal and state cooperation, a national system of reserves representative of various biogeographic regions in the U.S.; (2) to conduct long-term research, educational, and interpretive activities in support of national coastal zone management priorities.

Toward those missions, reserve sites are selected to represent the range of biogeographic regions, estuarine types, and coastal management challenges occurring throughout the U.S. To date, NOAA has designated 26 National Estuarine Research Reserves that collectively protect more than one million acres of estuarine land and water. Two additional sites are currently in various stages of the designation process.

B. RESERVE SITE DESCRIPTION

The Great Bay NERR incorporates selected key land and water areas covering approximately 5,280 acres and 48 miles of shoreline that are representative of the Acadian biogeographic region. The Great Bay estuary is a drowned river valley and is subject to high tidal energy and seasonal ice scour. The waters of the Reserve include all of Great Bay itself, the small channel from the Winnicut River, and larger channels from the Squamscott and Lamprey Rivers, which meet in the center of the Bay to form a main channel. The main channel connects to Little Bay at Adams Point. The Great Bay Estuary also drains the Oyster, Bellemey, Cocheco, Salmon Falls, and Piscataqua Rivers. Although most of the Great Bay system is located in New Hampshire, one third of the estuary's total drainage of 930 square miles lies in Maine. The shoreline and upland holdings of the Reserve include rocky shores, salt marshes, tidal creeks, upland



fields/woodlands, sheltered coves, and bluffs. These key land areas, constituting a mosaic of parcels ranging in size from 1 to 300 acres, have been incorporated into the Reserve by purchase or easement. Numerous waterfowl species and several rare birds are found in the area, including the bald eagle, common tern, and osprey, as well as rare plants.

The Great Bay has played a central role in the region's economy from the first European settlement. Historically, the Bay supported an active commercial fishery for oysters, lobsters, clams, and numerous finfish. The surrounding watershed provided timber for shipbuilding and other industries locally, as well as for export. With the Industrial Revolution, the region's economy began to shift to manufacturing, especially textiles. By the end of the 18th century, improvements in industrial practices and public sanitation were being sought to curb the threat of disease from organic wastes. Fisheries continued a decline that has been accelerated by pollution of all types. Not until a series of waste water treatment plants were built in towns surrounding the Bay in the 1960s did water quality begin to improve. Nevertheless, site-specific water quality problems persist. A profile of the Bay notes that while it is common to refer to the estuary as pristine, the Great Bay estuary exhibits warning signals of its fragility: shellfish closures, loss of eel grass habitat, and increasing shoreline and upland residential development.

Until recently much of the shoreline of Great Bay estuary had escaped the development pressures that have fundamentally altered estuarine systems throughout the United States. A number of factors have limited development pressures over the past 30 years. At low tide much of the Bay bottom is exposed as mudflats, making boating difficult. Great Bay is relatively removed from the Boston and Portland population centers, although that would change if a commuter rail connection to Portland were constructed as has been proposed. Further, the Bay is accessible at only a few points and is all but invisible from the area's roads. As a result, Great Bay has often been described as New Hampshire's hidden coast. Current uses of the Bay include limited commercial and recreational fin- and shell-fishing, boating, hunting, bird watching, and other passive pursuits.

C. RESERVE ADMINISTRATION

The Great Bay Reserve, designated by NOAA in 1989, is now managed by the New Hampshire Fish and Game Department (FGD) through its regional office in Durham, where the Reserve Manager and Research Coordinator are located. The remaining complement of Reserve staff are located at the Reserve's visitors' center, called the Sandy Point Discovery Center in Stratham, New Hampshire, which was opened to the public in June 1996. The Reserve operates with an active 12-member Advisory Board. The Great Bay Stewards, a 400-member nonprofit organization reflecting the interests and concerns of residents in the Great Bay area, is an important support base.

IV. REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Staffing

The Reserve's strength lies in its staff, and it was clear to the evaluation team that the staff members are well respected. Throughout the site visit, everyone with whom the team met praised the manager and staff members for their technical expertise and knowledge, their ability to develop broad and deep partnerships while maintaining the separate identity of the Reserve, and their exceptional talent to effectively communicate and share their strong commitment to the resources with the public and other partners.

The 2002 evaluation findings included recommendations dealing with the research coordinator position as well as other staffing levels and workload. At that time, the research coordinator was a part-time position. Since the last evaluation, the research coordinator position has been created as a permanent full-time position. Because this involved approval of both the Legislature's Fiscal Committee as well as the Governor and Council, it is an accomplishment for which both the Reserve and the Fish and Game Department (FGD) are to be commended. The position is funded from the Reserve's operations and management cooperative agreement awards from NOAA and by the NOAA/University of New Hampshire Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET). The CICEET funding should be considered an interim measure, because within the next several years CICEET may evaluate the investment in the position and decide to allocate its resources differently. The Reserve and the FGD are encouraged to seek out additional sources of funding for the research coordinator position should that become necessary. This issue is part of the larger concern about state funding support and match for the Reserve, which is discussed in a following section of these findings.

The Reserve now has six full-time, three part-time, and two seasonal positions. This is an increase since the last evaluation and probably represents a fairly complete complement of staff, given the state's and FGD's budget and economic forecasts for the next several years. Staff members are at full capacity in terms of work load. However, the Reserve has no secretarial, custodial, or maintenance staff, so existing staff generally assume tasks associated with those positions, including general cleaning of the Discovery Center.

ACCOMPLISHMENT: The Reserve and the Fish and Game Department have obtained a full-time, permanent position for the Research Coordinator and have filled out a fairly complete complement of professional staff. The Reserve now complies with OCRM core Reserve personnel requirements. The staff members are well respected for their technical expertise and knowledge, their ability to develop broad and deep partnerships while maintaining the separate identity of the Reserve, and their exceptional talent to effectively communicate and share their strong commitment to the resources with the public and other partners.

2. State Financial Support

Financial support and matching funds from the state for the Great Bay NERR continue to be very challenging and problematic. After initial program designation and placement in the state's coastal program in the Office of State Planning, the Reserve was moved to the Fish and Game Department because of the Department's ability to own and manage property on behalf of the state. The FGD's revenue stream is derived entirely from fishing and hunting licenses, off-road recreational vehicle registration fees, fines, penalties, and interest. Agency officials as well as a state senator writing in a local newspaper note that hunting and fishing are declining nationally, and New Hampshire is in line with that trend. The number of fishing and hunting licenses sold each year in the state has declined since the 1990s. Unanticipated cost increases, such as retired employees' medical insurance, workers' compensation, etc., have increased costs to operate the FGD and its programs. Although the FGD has increased the fees for various licenses, the number of licenses the Department issues continues to decline. The Department has had to dip into cash reserves, cut costs, reduce staff, and eliminate programs to prevent a budget shortfall, and predictions by the FGD indicate that trend will continue.

This situation was noted in the 2001 findings and in correspondence between OCRM and the FGD since that time. A direct effect upon the Reserve from the FGD's budgetary problems is and has been in providing matching funds for cooperative agreement awards. Matching funds are almost all in-kind dollars rather than cash directed to program implementation and enhancement. Since the matching funds have tended to stay fairly 'flat' for those categories, any salary increases that staff members receive are taken from and absorbed by federal funds. During the period covered by this evaluation, the state's match contribution for several "operations" cooperative agreements averaged approximately \$105,000, while the average amount for indirect costs to be taken from the federal dollar award (and thus 'paid back' to the FGD) was approximately \$50,000. Therefore, the state's final contribution for the operation and management of the Reserve averages about \$55,000 per year. This amount goes down as the indirect cost rate increases. Both of these situations actually result in fewer dollars for minimal program operation as time goes by and certainly provide nothing for program growth. If federal cooperative agreement funds are ever increased, the state will have a difficult time matching those additional funds.

The FGD's financial status is affecting basic services that the Reserve requires and should expect as part of the state's support of the program. Routine maintenance and housekeeping of facilities is no longer automatically provided to the Reserve. One of the staff reduction issues in the Fish and Game Department that has affected the Reserve is the decrease in land agents. At the time of the site visit, there was only one agent in the FGD to work with the Reserve (and with The Nature Conservancy, who often initially acquires land for inclusion within the Reserve boundaries) as property is acquired or donated to the Reserve. This land agent had tendered her resignation and was leaving within days of the site visit, however. This is creating a serious backlog and causes problems for The Nature Conservancy as well.

A more indirect effect of the FGD's financial situation is the perception of lack of state support for the Reserve and its mission. Because FGD revenue comes from hunting and fishing licenses, and that revenue then provides the state match, in reality only hunters and fishers are supporting the Reserve. If the state, on behalf of all its citizens, supported the designation of the Reserve and is still supportive of its mission, then the state, on behalf of all citizens (not just hunters and fishers), needs to find a way to show that support financially.

The struggle to identify non-federal match has meant that the Reserve uses the value of time volunteered by the Great Bay Stewards as match. Certainly other reserves calculate the value of volunteer time as match also. But as was noted in the 2001 findings, the Stewards volunteer their time for the provision of programs and outreach, not for match. The perception is created that the state is not willing to provide a level of support if volunteers will do so. More importantly, the Reserve is forced to rely heavily on a potentially fluctuating "value" of dollars. The Great Bay Stewards are extremely dedicated and have shown no inclination to decrease their volunteer activities, but none of them operates under a requirement to volunteer time. The reliance upon volunteer time as match is related to the issue of funding for the research coordinator being provided by CICEET. Such dependence upon these non-obligatory contributions may lead to a funding crisis for the Reserve should either fail to be provided at some time in the future.

During much of the site visit, discussions with Reserve staff, FGD officials, and others centered around possible ways to provide state revenue (and thus state match as well) for the Reserve. Many of the discussions noted the lack of a dedicated funding stream or source. Several mechanisms the state might create or use to provide a percentage of monies for Reserve programs and operations from an established source include a portion of a specialty license plate ("Protect Great Bay," for example), a recreational saltwater fishing license, or a bed or tourist tax. State leadership in both the executive and legislative branches should also consider a specific budgetary line item for the Reserve in the FGD's budget. Creation of some sort of fund or foundation where specific financial donations from citizens, nonprofit organizations, or businesses for the Reserve would be specifically held and used for the Reserve without being directed into an agency's general fund is also an option for consideration.

By whatever mechanism it chooses, the state needs to develop a dedicated or more stable funding stream for the Reserve's general operation and management before the impending budget crisis at FGD worsens or other funding and match sources (CICEET funding for the Research Coordinator position and the Great Bay Stewards volunteer time, for example), decrease or disappear. The 2002 findings contained a Program Suggestion to this effect, but the situation has not improved. *[Since the site visit, the FGD Executive Director has formed a department-wide strategy team to explore and develop future revenue sources. During this process the FGD will look at ways to fund all of its programs, including the Reserve.]*

NECESSARY ACTION: The Reserve, the New Hampshire Fish and Game Department, and any other appropriate state entities (Governor's Office or Legislature, for example) should immediately begin to identify and/or develop a dedicated or more stable non-federal stream for the Reserve's general operation and management. The Reserve must discuss and report on these efforts in each cooperative agreement performance report.

3. Facilities and Infrastructure

The Reserve Manager and Research Coordinator are housed in the FGD regional offices in Durham. Other staff are located at the Sandy Point Discovery Center, which is the Reserve's visitor center, on Great Bay. The Discovery Center is utilized to its full capacity, and visitation there has nearly doubled from 2001 (over 15,000 visitors) to 2004 (over 28,000). Most significantly, the Discovery Center has no space that can accommodate more than 30 people with chairs. As the educational programs offered by the Reserve have become more popular and visitation has increased, this is now a serious problem.

To help meet this space need, funding was received in FY 01 for the design and engineering of the Coastal Conservation Center. It was designed as a New England style barn and is now often referred to as "the barn;" it is located immediately adjacent to the Discovery Center. FY03 construction funds were awarded for the barn, the design of which was modified from the original design to now include a lower level for use as a wet classroom and teaching lab with some research facility space. The lower level is handicapped accessible and has its own outside entrance. The main meeting level is primarily dedicated as meeting space with a capacity of up to 100 people theater style. The barn includes a coatroom, reception area, storage closet, kitchen, bird viewing area, restroom facilities, exhibits, and 16 additional parking spaces. It incorporates various sustainable design features and materials. At the time of the site visit, considerable progress had been made on the construction, and completion of the barn was anticipated by approximately August 1, 2005.

The barn will effectively complement the Discovery Center and provide much needed space to meet the outreach and education activities of the Reserve. The wet classroom and teaching lab space are also effective additions to the Reserve's facilities, particularly now that the Reserve has a full-time Research Coordinator.

ACCOMPLISHMENT: The design and near completion of the Coastal Conservation Center (the "barn") at the Reserve will significantly enhance its education, outreach, and research activities and programs.

The other building associated with the Reserve is the Depot Station. It is located in direct proximity to the Discovery Center and barn, and a Reserve staff member lives in the Depot Station and serves as a caretaker for the buildings. Her presence provides a measure of security for the buildings, and she also helps keep the Discovery Center clean. Acquisition of the Depot Station with federal NOAA funds (prior to this evaluation period) provided the Reserve with a caretaker residence, short-term residential opportunities for visiting researchers, potential expansion of some exhibit space from the Discovery Center, and possibly even some local office space for significant partners of the Reserve such as The Nature Conservancy, which has a strong role in acquisition and management of land holdings in the Reserve.

The Depot Station was purchased with the intent to use it as a reserve property. However, after the acquisition, there were instances where the Station was being used to house Fish and Game Department enforcement officers for several months at a time for non-Reserve related business. That has apparently ended, but at the time of this site visit, the Reserve has not been allowed to use the facility. The FGD executive director indicated that he is in the process of developing a policy for its use.

With the Reserve's expanding research capabilities, it is increasingly likely that there will be a need for residential space for visiting researchers. Any non-Reserve related use of the Depot Station could be in violation of the NOAA cooperative agreement award and Reserve regulations by which the property was purchased, unless specifically clarified and then approved by NOAA. *[Since the site visit, the FGD has worked on completing a building use policy. In coordination with the New Hampshire Attorney General's Office, the FGD has drafted a housing use agreement to appropriately address the issue of housing in state facilities. According to the FGD, once the final version has been approved, the Reserve Manager will prepare a specific agreement for the Depot Station for NOAA's review and inclusion in the Reserve's management plan.]*

NECESSARY ACTION: The Reserve must be allowed to use the Depot Station. Any policy developed by the Fish and Game Department for use of the Depot Station must be reviewed and approved by NOAA and should be reflected in the Reserve's management plan as well. The Reserve must report on the status of the use of the Depot Station in each cooperative agreement performance report and include a copy of the facility's use policy in the final management plan submitted no later than six (6) months from the date of these findings.

4. Management Plan

The Reserve's 1989 management plan is long overdue for update and revision. The 1997 evaluation findings included a Necessary Action requiring completion of the revised management Plan by November 1999. The Reserve provided a very rough draft of a revised management plan to OCRM at about the time of the 2001 evaluation site visit. The Reserve then revised the plan and submitted another draft in July 2004. Staff of the OCRM Estuarine Reserves Division and Ocean Service General Counsel reviewed that draft and provided comments to the Reserve Manager in February 2005. It is anticipated that the plan will be completed and finalized within several months. [*Since the site visit, a final draft has been reviewed and approved internally by the Fish and Game Department and was being sent to OCRM at the time of the issuance of these findings.*]

NECESSARY ACTION: The Reserve must complete and submit a final revised management plan to OCRM within six (6) months of the date of these findings.

5. Coordination and Partnerships

The Reserve continues to do an outstanding job of coordinating with other agencies and entities and forming strong, long-term partnerships with both governmental and non-governmental organizations. This is not only vital for the Reserve to be able to accomplish any of its goals and objectives because of its limited staff and financial resources, but it takes advantage of the expertise and willingness of many people who strongly support the mission of the Reserve and want to work for the protection of the Great Bay Estuary.

Great Bay Stewards: One of the most durable partnerships has been with the Great Bay Stewards. A group called the Great Bay Trust was organized in 1983 to, among other, issues, work toward designation of the Great Bay National Estuarine Research Reserve and to develop the Sandy Point Discovery Center for Great Bay education programs. The Great Bay Stewards

at Sandy Point organization was created in 1995 by volunteers to support the then-new Sandy Point Discovery Center and the Research Reserve. The Stewards and the Trust began working closely together and in 1997 the two groups merged. Fundraising and outreach are the Stewards' primary missions in support of the Reserve.

To say that the Stewards enable the Reserve to operate and accomplish many objectives is not an exaggeration. Through a Memorandum of Agreement with the New Hampshire Fish and Game Department, the Stewards act as the official "friends group" of the Reserve. In this capacity, the Stewards have fully funded or supported numerous administrative, educational, and stewardship activities. The Stewards provide funds for membership of the Reserve in the National Estuarine Research Reserve Association (NERRA) and for special conferences and professional training for Reserve staff. Even more significant from a financial perspective, the thousands of hours of volunteer time donated by the Stewards' members provide a portion of non-federal match funding for the NOAA operations and management awards for the Reserve that the state is unable to provide. In 2004, through an annual commitment of match dollars, the Stewards helped the Reserve secure \$500,000 from the U.S. Department of Agriculture's Natural Resources Conservation Service Wetland Reserve Program for Reserve property management and habitat restoration through the year 2012. The Stewards administer and manage the Discovery Center store and provide financial support to design and produce *Great Bay Matters* newsletter.

The Stewards form the core and backbone of the volunteers at the Reserve. Members conduct many of the educational and outreach programs at the Discovery Center and are central to the success of the community Land Stewards program and the new Osprey Stewards program. These and other volunteer activities are discussed under Section C. "Education and Outreach."

ACCOMPLISHMENT: As the Great Bay Reserve's official "friends group," the Great Bay Stewards play an integral role in the success of a variety of programs at the Reserve and make an essential financial contribution to the operation and management of the Reserve. NOAA recognizes and commends the Stewards for their ongoing partnership.

Great Bay Resource Protection Partnership: Another extremely successful partnership exists with the Great Bay Resource Protection Partnership. The Partnership builds conservation alliances, acquires land, secures conservation easements, and works to restore ecosystems, among other strategies. With The Nature Conservancy as the lead acquisition agent, this is a collaboration of local, state, and federal agencies and nonprofit organizations, whose principal partners include the Audubon Society of New Hampshire, the Society for Protection of New Hampshire Forests, Ducks Unlimited, the USDA Natural Resources Conservation Service, EPA, U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, and the Reserve. The Partnership, whose work is discussed in greater detail in this document under Section D. "Stewardship and Resource Management – Land Acquisition," has been extremely successful in acquiring property and developing management plans to protect the Great Bay Estuary.

Ultimately, many of the parcels acquired by The Nature Conservancy for the Partnership are transferred to the Fish and Game Department and incorporated into the Reserve.

The Natural Resource Outreach Coalition (NROC): NROC is another important collaborative effort. Members of the Reserve staff are founding members of NROC, whose members include the New Hampshire Coastal Program, New Hampshire Sea Grant and the UNH Cooperative Extension, NH Department of Environmental Services, the New Hampshire Estuaries Project, Strafford and Rockingham regional planning commissions (which cover the coastal region of the state), and the Strafford and Rockingham county conservation districts. The emphasis and goals of NROC are to support communities facing growth by helping them understand the impacts of growth on natural resources and to work with community members (elected officials, municipal staff, various boards and commissions, and interested citizens) to address community-specific natural resource concerns. The work of the group and the interactions with the Reserve are more thoroughly discussed under Section C. “Education and Outreach – Coastal Training Program.” It is through the Coastal Training Program that much of the coordination and collaboration occurs.

New Hampshire Coastal Program (NHCP): The NHCP and the Reserve coordinate and collaborate in a variety of ways. Both are heavily involved in NROC, and both participate in the Public Outreach and Education Team (POET), which is one of four project teams established by the New Hampshire Estuaries Project Management Committee to implement Action Plans from the *Comprehensive Conservation and Management Plan*. During the evaluation site visit the NHCP and the Reserve held one of their periodic joint meetings to brief the programs’ staff members on activities, projects, issues, and other item of mutual interest. One of the discussions involved the need to communicate about *phragmites*, a significant wetlands invasive species. Through a contract, the NHCP has done *phragmites* mapping using remote sensing, while the Reserve has some data base information about locations of *phragmites* in the Reserve. There was also discussion about collaboration and coordination on the Coastal and Estuarine Land Conservation Program.

The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET): The location of CICEET at the University of New Hampshire campus in Durham provides the Reserve with numerous opportunities for coordination, particularly in the research, stewardship, and restoration programs. The Research Coordinator’s salary is partially funded by CICEET, providing opportunities to partner on a variety of activities to the benefit of both the Reserve and CICEET. CICEET uses the capabilities of UNH, the private sector, academic and public research institutions throughout the U.S., as well as the 26 reserves within the NERRS to develop and apply new environmental technologies and techniques. The Research Coordinator provides an obvious connection to the research coordinator community at large. Currently CICEET and the Great Bay Reserve are working cooperatively on IOOS (integrated ocean observing system)-related monitoring and are working to develop a relationship with the Coastal Training Program at the Reserve. For example, CICEET has a stormwater technology evaluation center, and with the Reserve and through the CTP, CICEET is hoping to provide a series of training sessions for local municipalities dealing with stormwater treatment technologies. This

and other technology transfers are good fits for more cooperative work between CICEET and Great Bay Reserve.

The Reserve also benefits from cooperation and coordination with NH Sea Grant and the UNH Extension Service and the New Hampshire Estuaries Project (part of the EPA National Estuary Program).

ACCOMPLISHMENT: The Great Bay Reserve takes full advantage and does an outstanding job of coordinating with other agencies and entities and forming strong, long-term partnerships with both governmental and non-governmental organizations.

B. RESEARCH AND MONITORING

1. Research Activities

As noted in the Staffing section, the Reserve has successfully obtained a permanent, full-time position for the Research Coordinator. The completion of the barn, which will provide some research space at the general visitors' center area, and the pending resolution of the use of the Depot Station as residential space for visiting researchers have combined to invigorate the Reserve's research program. During the period covered by this evaluation and in response to a Necessary Action from the 2002 findings, the Research Coordinator has established a research advisory panel. The panel consists of seven members, meets one to two times per year, and generally supports the Research Coordinator and assists the Reserve in developing a research program that complements current efforts and needs in Great Bay. The ideas for the workshop and synthesis document described below grew out of suggestions made by the panel.

The Research Coordinator worked with a large and diverse group of participants at a workshop convened at the State of the Estuaries Conference in the fall of 2004 to develop a list of research needs for the Great Bay estuary. "A Synthesis of Research Needs for the Great Bay Estuary" (2004) identifies a continuum from basic data needs to complex investigations within five common themes. The synthesis will be extremely useful in developing collaborations and partnerships among the research community where limited funds presently exist to address shared concerns and needs. The identification of research needs may well prove to be a boon in seeking research fellows through the NERRS Graduate Research Fellowship (GRF) program. With respect to the GRF program, the Research Coordinator has increased efforts to interact with the University of New Hampshire and the research community, and in 2004 Great Bay had more GRF applicants (eight) than any other research reserve site.

The research program is taking shape based on input from the advisory panel and results of the research needs synthesis. The focal point of the program is anadromous fish in Great Bay. The FGD has a need for investigations into downward trends evident in monitoring data collected during spring spawning events, and the Reserve has the expertise and capacity to contribute to this understudied portion of Great Bay's resources. The Reserve is collaborating on two projects with a researcher at UNH. The first examined the emigration of juvenile American shad from the Exeter River, and the results were presented in a poster at the Restore America's Estuaries annual conference in September 2004. The second project to investigate rainbow smelt egg development and hatching success is just beginning. A partnership with the state Department of Environmental Services made it possible for some aspects of the project to move forward without funding, and the New Hampshire Coastal Program has now accepted a proposal for the project (pending NOAA approval), which will begin during the smelt spawning in 2006.

The large number of research and monitoring programs conducted in and around Great Bay has resulted in many publications and reports. The Reserve contracted to have a web-based searchable database of these documents created, and the tool is now available on the Reserve's website.

With increased interest in research at Great Bay, the availability of some research space at the barn, a permanent full-time research coordinator position, and the availability of limited residential space for researchers at the Depot Station, the Reserve's research program is well positioned to expand beyond its current reach of activities.

ACCOMPLISHMENT: With the creation of a full-time permanent research coordinator, availability of research space at the Coastal Conservation Center (the barn), formal development of a synthesis of research needs, and increased interaction with the larger Great Bay research community, the Reserve has created the tools to expand its current research program.

2. Monitoring Activities

Systemwide Monitoring Program (SWMP): Funds to support the systemwide monitoring program at the Great Bay Reserve are awarded by NOAA directly to the University of New Hampshire (UNH). The SWMP monies are handled in this way for two primary reasons: the process by which NOAA awarded funds to the state and the process by which the state then completed a contract with UNH generally took six or more months, leaving less than half a year to complete a year's SWMP activities; and UNH is able to provide funding match for the SWMP dollars, which the Reserve and GFD are unable to do. The UNH provides for the operation and maintenance of five water quality datasondes (four required by the NERRS SWMP and a fifth used as in-kind match); operation and maintenance of the meteorological station; implementation of the monthly water quality sampling program, including collection processing and analysis for

dissolved inorganic nutrients, suspended sediments, particulate organic matter, and chlorophyll-a; and data management and submission to the Centralized Data Management Office (CDMO). The four required datasondes are deployed at mid-Great Bay and the Lamprey, Squamscott, and Oyster rivers. The fifth datasonde is deployed near the mouth of the Piscataqua River. In general, the units are deployed from April to November during the ice-free months. A biological monitoring project was begun in 2002 with SWMP resources.

This situation of funding for the SWMP is unlike that at almost all other reserves but appears to generally work. During the period covered by this evaluation some issues arose, including, for example: the need to relocate the weather station from the Jackson Estuarine Lab (JEL) to a more suitable location; timeliness of data submissions to the CDMO; the need for a complete inventory of equipment and back-up probes and a schedule for replacement of probes and dataloggers; and need to determine annual deployment dates of dataloggers.

The Research Coordinator and the Director of the UNH Marine Program (the project director for SWMP implementation) have increased their efforts to deal with some of these issues. For example, a system has been devised so that the Research Coordinator can view the data electronically and remotely. The FY 04 data submissions to the CDMO were all completed on time, and with the introduction and use of real-time telemetry in the near future, the concern about lateness because of a time lag between submission and receipt will be moot. The weather station is being relocated, and JEL is receptive to longer in-water deployment of dataloggers. JEL generally pulls its docks in earlier than the time needed for in-water deployment. Systemwide, it is strongly recommended that data be captured every two weeks. At Great Bay in summer the data is collected every two weeks, but at other times that schedule slips a bit. The project director indicated to the evaluation team that the JEL will try to hold to the every-two-weeks schedule more firmly at all times.

Because of the fairly unique funding situation, communication between the Reserve and UNH is critical if SWMP is to be effectively conducted at Great Bay. Both the Research Coordinator and the UNH Marine Program Director have indicated a willingness to work closely, and coordination is improving. One of the issues on which they will need to coordinate is the purchase of new equipment. All of it is about the same age and will need to be replaced over the next several years. That is why it is particularly important to have both an inventory of equipment and to develop a schedule for replacement. Now that the research coordinator position is full-time, his oversight and involvement in the program can increase as a part of his normal duties.

ACCOMPLISHMENT: The Reserve and UNH have improved communication and coordination with regard to conducting the systemwide monitoring program and are addressing some of the points at issue that have arisen as a consequence of the SWMP implementation arrangement.

PROGRAM SUGGESTION: NOAA encourages the Reserve and UNH to maintain and increase communication and coordination to address the conduct and implementation of the SWMP. The Research Coordinator should maintain active involvement in the program and define and strengthen his oversight role.

Gulf of Maine Ocean Observing System (GoMOOS): The Reserve has become involved in the Gulf of Maine Ocean Observing System (GoMOOS). In 2001 GoMOOS deployed 10 buoys in the Gulf of Maine, which includes the shoreline of New Hampshire as well as Massachusetts, Maine, and several Canadian provinces. The ocean data is used by a wide variety of users, but some coastal resource managers have expressed concern that the data buoys are too far offshore to meet many coastal management needs. To that end, GoMOOS is installing several inshore buoys, and one is near an existing NERR monitoring station in Great Bay. Data from these inshore buoys should help coastal managers and local communities to address nearshore and estuarine oriented issues, thus giving the Reserve an opportunity to focus on its research and education missions.

Coastal Observing Center: Finally, the Reserve is working with the Coastal Observing Center at UNH, which is deploying a monitoring buoy at the central Great Bay SWMP site. The evaluation team saw the new buoy on the day it was delivered during the site visit; it was deployed shortly thereafter. This buoy will provide additional parameters such as in-situ nutrient data, fluorescence, and weather information. All information will be telemetered via wireless internet in real time. To facilitate discussion around data products associated with this new installation, the Reserve hosted a workshop in February 2005 with 14 participants, who decided a necessary first step in the process was to synthesize available data. This ongoing effort is making use of SWMP data collected at all locations in Great Bay.

C. EDUCATION AND OUTREACH

1. Education and Outreach Programs

During the period covered by this evaluation, the Reserve has broadened its program efforts, and this is very evident in its education and outreach activities. The Education Coordinator and other staff have made a concerted effort to bring in more adult audiences and secondary students in addition to the ongoing emphasis on primary school students. Current education programs include:

Spring Natural History School Programs – At the Discovery Center for classrooms in grades 1-5; includes activities to learn about the plants, animals, and habitats of Great Bay.

- Fall Cultural History School Programs – At the Discovery Center for classrooms in grades 1-5; includes activities to learn about the people, their activities, and lifestyles throughout history around the Bay.
- Winter Bayventure Programs – At the Discovery Center for children approximately ages 7-11 but not as part of a school classroom; four-hour long program on a weekend, including outdoor and indoor activities, games, and a craft.
- Summer Bayventure Programs – At the Discovery Center for children approximately ages 7-11 but not as part of a school classroom; two-hour long program, including outdoor activity, game, and craft.
- Once Upon an Estuary – Summer program at the Discovery Center for children ages 4-6 and accompanied by an adult. Follows the same scheduled themes as the Summer Bayventure for older children.
- Bay Views – Adult lecture/speaker series at the Discovery Center on Wednesday evenings in July and August. Local presenters discuss a variety of issues relevant to coastal decision makers and other interested people.
- Ambassador Programs – Can be tailored to meet the needs of any specific group other than school groups (pre-schoolers, boy scout troops, disabled group, etc.) and often focus on resources surrounding the Discovery Center’s accessible trail.
- Kayaking Program – Introduces adults and teenagers to the estuarine environment; designed for beginners and includes basic instruction and safety skills, followed by a 2-3 hour trip on the waters. Also includes an all-day estuarine habitat expedition for more advanced paddlers.
- Natural History Mysteries – This is a new program that has been developed during the period covered by this evaluation. It is geared to 12-15 year olds and will be offered for the first time in the summer of 2005.

In calendar year 2004 alone, almost 5,000 people participated in the programs mentioned above. General visitation at the Discovery Center in 2004 was nearly 30,000, and the education and outreach staff at the Reserve also offer at least four educators workshops dealing with different aspects of an environmental education curriculum; “Estuary Odyssey” classroom programs brought to a school, camp, or community center from December through February; and “Traveling Trunk” program and other educational resource materials made available to teachers.

Through its diverse education and outreach programs, the Reserve supports a number of special events, including the Great Bay 5K Road Race, National Estuaries Day, and Duckers’ Day (a celebration of waterfowling on Great Bay). These events highlight the importance of Great Bay as a natural resource and bring the public to the Bay and the Reserve. The Reserve maintains a robust web site and also publishes *Great Bay Matters*, a newsletter published three times a year in cooperation with the Great Bay Stewards.

2. Volunteer Programs

Although much of the success of this broad and deep educational and outreach program is due to the dedicated and enthusiastic Reserve staff, Great Bay has also developed an exceptional volunteer program. The majority of the volunteers are members of the Reserve's official friends group, the Great Bay Stewards. The New Hampshire Sea Grant and UNH Cooperative Extension offer a "Marine Docent Program" in which volunteers learn about ocean and coastal environments and are taught to share that knowledge with others. They staff Sea Grant Extension marine education programs, and may choose to teach in school settings and on boats, educate community groups, or guide visitors at the Seacoast Science Center or the Sandy Point Discovery Center. According to several Marine Docents who volunteer at the Reserve, working at the Discovery Center is a highly coveted option, and many of the volunteers are graduates of the Marine Docent Program. Specific training programs are offered that have developed a remarkable cadre of volunteers who guide many of the traditional educational programs mentioned in the section above. Volunteers also are trained to work in the Exhibit Room at the Sandy Point Discovery Center and for special events. Approximately 3,300 hours were donated in 2004 by volunteers for educational programs, the exhibit room, and special events.

Programs have also been developed to train volunteers to conduct specific activities at the Reserve. The Great Bay Osprey Stewards program was developed during the period covered by this evaluation. Its goals are to monitor the osprey population in the Great Bay watershed; foster education throughout the community by developing and delivering osprey education programs; and instill stewardship of natural resources. In 2004 there were over 30 volunteer Osprey Stewards monitoring nine active nests in the watershed. (Of those nine nests, eight were successful and fledged 14 chicks.)

The Community Land Stewards program is an ongoing group of volunteers who "adopt" a piece of property within the Reserve. These people are able to keep an eye on property that the Reserve staff may not be able to visit routinely. The volunteers walk their properties at least four times a year, once each season (or more often as they would like), picking up trash, noting activity on the land, and answer questions from anyone they meet on their visits. Currently there are 20 volunteers active on 18 properties. The program has shown considerable growth and more formal organization recently. On Estuaries Day in September 2004, 25 Stewards plus other volunteers put in trail systems on Goat Island, one of the Reserve's premier properties.

The Winter Waterfowl Monitoring Program trains volunteers in December to count wintering geese and ducks on the Bay every other Saturday from January through March of each year. In 2004 over 212 hours of volunteer time were recorded for this activity.

ACCOMPLISHMENT: The Reserve has an education and outreach program whose offerings are both wide-ranging in topic and rich in content. It has created new programs to serve an even wider audience than before. Reserve staff are intimately involved in the programs but have wisely developed an extensive volunteer program to greatly supplement the limited number of staff who could not otherwise reach the numerous audiences or conduct the large number of programs.

3. Coastal Training Program (CTP)

In the fall of 2004 the Reserve submitted all four documents (market analysis, needs assessment, program strategy, marketing strategy) required to establish the Reserve's coastal training program. The CTP Oversight Committee found all the documents to be acceptable in February 2005, so the Reserve's CTP moved from planning into implementation. However, the Reserve has been involved with coastal decision maker training and has been supportive of other coastal management training since before the period covered by this evaluation, so it was a relatively smooth transition to CTP implementation.

The needs assessment determined that the primary issue challenging a sustainable Great Bay ecosystem is growth and development and associated issues. These issues include land use change, increase in impervious cover, nutrient pollution, water pollution, and water resource problems. Coastal and southern New Hampshire are experiencing intense development pressure. The CTP serves the primary coastal decision makers in the coastal watershed, who were identified as select boards and city councils, planning boards, conservation commissions, zoning boards of adjustments, planning departments, and regional planning commissions.

Needs assessment work completed by the Reserve in 1998 was instrumental in the strategic planning of a collaborative coastal decision maker service provider group, the Natural Resources Outreach Coalition (NROC). Its members include the GBNERR, the New Hampshire Coastal Program, UNH Cooperative Extension, New Hampshire Department of Environmental Services, and the Rockingham and Strafford Planning Commissions. These organizations also form the core of the Reserve's CTP Advisory Committee, which provides guidance in operations and procedures, evaluation of education methods, establishing educational priority issues and target audiences, and identifying partners.

The NROC is an effective technical information and training provider to coastal decision makers in New Hampshire. It works with three coastal watershed towns a year (chosen through an application process) to identify concerns of the town and provide three to six or more trainings depending upon their needs and followup requests. By working with NROC, the Reserve's CTP has partnered with a group that targets coastal decision makers specifically in a very effective coalition to bring the specific resources needed for towns to meet their natural resource and growth challenges.

ACCOMPLISHMENT: The Reserve's Coastal Training Program has completed all preliminary planning documents, received all necessary approvals, and moved into full program implementation. The CTP has wisely chosen to work closely with the Natural Resources Outreach Coalition, which is an effective technical information and training provider to coastal decision makers.

D. STEWARDSHIP AND RESOURCE MANAGEMENT

1. Stewardship

The stewardship program at Great Bay was officially started in January 2002, with the hiring of the Reserve's full-time Stewardship Coordinator, although activities had been occurring before then. Community stewardship is very much a strength at the Reserve. As mentioned under "C. Education and Outreach – Volunteer Programs," the Community Land Stewards are a substantial part of the stewardship activities. Currently there are approximately 20 active Land Stewards at work on 18 properties, representing 95 percent of fee properties that have been transferred to the Reserve. In the year 2004 Land Stewards documented 195 hours of work, which is the equivalent of five weeks from a full-time staff member. There were many unrecorded hours as well. Each Land Steward completes a standardized property monitoring report for each visit, including information about evidence of improper uses and vandalism, needed maintenance, and status of natural features (e.g., erosion, evidence of invasive species). Annual stewardship work parties take place on National Estuaries Day. In 2004, 22 volunteers began work on an interpretive trail on Goat Island (the Goat Island Cultural Trail).

Other stewardship activities that the Reserve has completed during the period covered by this evaluation include:

- the design of GBNERR allowable use and property boundary signs, which have been posted on 14 properties;
- the 14 properties have also been surveyed and boundaries have been mapped;
- working with Northeast Passage (self-funded program at UNH) on design of all new trails, kiosks, and viewing platforms on Reserve properties to make them as accessible to as wide a range of individual abilities as possible;
- constructed an osprey viewing platform at one property and have completed design for a second. Both are ADA accessible; and
- created historic events and places map, which includes all community cemeteries, family graveyards, National Register of Historic Places buildings, state historic features, and historic districts within the GBNERR boundaries. Visitors provided input and added family knowledge.

2. Restoration and Resource Management Activities

The Reserve has now created a Great Bay Management Advisory Committee. Its members include the Reserve's Manager, Education Coordinator, and Stewardship Coordinator; and a habitat biologist, waterfowl biologist, non-game biologist, and land agent from the Fish and Game Department. The Committee has established management priorities and property management summaries for 13 properties. The management summaries are distributed to FGD division chiefs and other interested staff. Full management plans will be written at the regional scale.

In cooperation with The Nature Conservancy, staff members are mapping invasive species on all Reserve properties in preparation for a strategic control program. Also in partnership with The Nature Conservancy, the Reserve has completed detailed resource inventories of four properties.

During this evaluation review period the Reserve secured a \$500,000 award from the USDA Natural Resources Conservation Service's Wetland Reserve Program, which will allow the Reserve to conduct activities including wetland restoration, invasive species monitoring and control, and erosion control. Three detailed topographic surveys have been completed in preparation for three projects using these funds.

Other restoration activities during this period include the removal of two former residences, a farm building, concrete pad, and several out buildings on Reserve property. The Reserve worked cooperatively with two town fire departments to allow them practice burns.

The Stewardship Coordinator has taken the lead developing performance indicator monitoring at the Reserve scale and pre- and post-monitoring for individual restoration projects. She has also taken the lead on coordinating the Reserve's GIS (geographic information system) efforts. Maps have been created for various needs in the management plan under revision; for example, developed vs. non-developed land within the Reserve, and acreage calculations for the proposed new boundaries and of various habitat types. The revised management plan will include a distinction between Reserve core lands versus buffer lands, and maps have been developed for this purpose as well. (The actual boundaries of core and buffer lands were briefly discussed during the site visit, and this discussion will continue with the Estuarine Reserve Division as the management plan revisions are completed.) Because of new land acquisitions, the new Reserve boundaries have been digitized. GPS and GIS natural resource inventories for individual properties have been compiled, and GIS is being used for regional trail planning as well.

ACCOMPLISHMENT: The Reserve has established a strong stewardship and restoration program. The Research, Education, and Stewardship Coordinators are collaborating to incorporate science, public education, and community involvement into all aspects of the Reserve's stewardship and natural resource management activities. The Reserve obtained significant funding to conduct restoration activities on Reserve property. It is developing performance indicator monitoring for restoration projects.

3. Land Acquisition

The state continues to be very successful in acquiring lands in the New Hampshire coastal area. Senator Judd Gregg of New Hampshire has been helpful in obtaining federal funds for the state for land acquisition through congressionally directed NOAA funding. The Great Bay Resource Protection Partnership has been extremely able at acquiring key lands with those NOAA funds and from the U.S. Fish and Wildlife Service North American Wetlands Conservation Act (NAWCA) grant awards. With The Nature Conservancy as the lead acquisition agent, the Great Bay Resource Protection Partnership is a collaboration of local, state, and federal agencies and nonprofit organizations, whose principal partners include the Audubon Society of New Hampshire, the Society for Protection of New Hampshire Forests, Ducks Unlimited, the USDA Natural Resources Conservation Service, EPA, U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, and the Reserve. Since 1994 and by the time of the evaluation site visit, the Partnership had protected, through fee or conservation easement acquisition, more than 6,800 acres with NOAA and NAWCA funding and NAWCA match tracts. The Partnership collaboratively determines what properties should be purchased. These are prioritized, and then the appropriate agency or entity to own the land is identified.

ACCOMPLISHMENT: The State, the Reserve, and the Great Bay Resource Protection Partnership have been extremely successful in acquiring properties within the Great Bay Estuary for resource protection and to prevent inappropriate development.

However, the success of the Partnership in acquisition has stressed the state's ability to complete the acquisition process and manage the lands. The Nature Conservancy (TNC) handles the actual acquisitions for the Partnership. Although a few tracts acquired by fee are transferred to local municipalities, the vast majority are transferred to the Fish and Game Department (FGD). This transfer is very cumbersome, and the lack of timeliness with the process has been an ongoing problem for TNC as well as for the state. The previous evaluation findings discussed the issue, and the situation has not improved. The FGD had only two land agent or realty management positions responsible for handling the land transfers. At the time of the site visit, however, one of the positions was vacant, had been advertised or posted three times, and had not been filled. The person occupying the other position was leaving on May 1, just days after the

site visit. With no staff at FGD to handle the transactions, the transfers will not only be “not timely,” they will stop.

A Memorandum of Agreement between the FGD and The Nature Conservancy stipulates transfer of property from TNC to the state will occur within three months of TNC’s acquisition. The burden of holding ownership for time beyond that becomes very difficult for TNC. During the protracted land transfer process, vandalism and illegal dumping occur on some properties, and questions of liability may be raised should anyone be hurt. As part of the survey process, TNC has the boundaries flagged and marked so the FGD can easily post its boundaries. However, because of the delay in the transfer process, this flagging is often lost, which becomes a problem for FGD when it needs to post its boundaries. TNC was initially paying taxes on the properties slated to be transferred, which is not a NOAA-reimbursable expense. Because the transfers are taking over one year, TNC is now filing exemptions from local taxes. Although filing the exemptions saves TNC money, it takes staff time and resources to prepare the filings. If, in the near future, the FGD is not able to provide the necessary land agent functions to complete land acquisition transfers in a timely manner, then it should consider contracting that function to another entity to accomplish this so that neither the TNC nor the property will suffer from a protracted transfer. *[Since the site visit, the FGD has contracted with an individual to assist with land transfers. At the time of the issuance of these findings, the FGD has indicated that it is in the process of filling each of its vacant positions in the Lands Bureau to help with these issues.]*

PROGRAM SUGGESTION: Acquisition of properties for protection of the Great Bay Estuary and for incorporation into the Reserve should be completed in a more timely manner. The State and the Fish and Game Department should devise and implement a mechanism (e.g., hire land agents in the Department, contract out that function) to accomplish timely land transfers from The Nature Conservancy to the FGD.

Once property has been transferred to the FGD, the parcels are eventually incorporated into the Reserve. Long-term management of Reserve properties is an escalating issue, especially in light of the significant acreage being purchased. The Land Stewards program initiated by the Reserve is an admirable attempt by extremely dedicated volunteers to address some portion of the problem, but it will not be nearly enough as more acreage is purchased and it is not a situation that should be left to volunteers to solve. If it is a state priority to invest significant amounts of money to purchase land for resource management and protection, then the state should make it a priority to have a mechanism in place for timely transfer of property and management of those lands. Admittedly, no one expects the state to decline funding for purchase from willing sellers. However, the acquisition of property still creates a management problem. If it is not likely that the FGD can hire personnel to act as caretaker/manager of newly acquired Reserve properties, then it should consider other options, such as contracting for management activities or establishing some type of reserve land management endowment fund to pay for an

oversight land manager and for other costs associated with owning and managing the Reserve properties.

PROGRAM SUGGESTION: The State and the Fish and Game Department should develop a plan to address the financial and staffing issues associated with the long-term management of lands acquired by the state and incorporated into Great Bay Reserve. The Reserve's final management plan should address the issue of long-term land management for newly acquired properties.

V. CONCLUSION

Based upon the recent evaluation of the Great Bay National Estuarine Research Reserve, I find that the state of New Hampshire is adhering to the programmatic requirements of the National Estuarine Research Reserve System in its operation of the Great Bay NERR.

The Great Bay NERR has made notable progress in the following areas: (1) Operations and Management; (2) Research and Monitoring; (3) Education and Outreach; and (4) Stewardship and Resource Management.

The evaluation team identified the following areas where the Great Bay NERR could be strengthened or improved: (1) Operations and Management; (2) Research and Monitoring; and (3) Stewardship and Resource Management.

These evaluation findings contain six (6) recommendations: three (3) Necessary Actions that are mandatory and three (3) Program Suggestions that should be considered by the Great Bay National Estuarine Research Reserve prior to the next §312 evaluation of the program.

This is a programmatic evaluation of the Great Bay National Estuarine Research Reserve that may have implications regarding the state's financial assistance awards(s). However, it does not make any judgment about or replace any financial audits.

9/29/05

Date

/s/ Eldon Hout

Eldon Hout, Director
Office of Ocean and Coastal
Resource Management

LIST OF PERSONS CONTACTED

U.S. Senators

Honorable Judd Gregg
Honorable John E. Sununu

U.S. Representatives

Honorable Jeb E. Bradley
Honorable Charles F. Bass

New Hampshire Fish and Game Department

Lee Perry, Executive Director
Daniel Lynch, Assistant Director
Randy Curtis, Federal Aid Coordinator
John Nelson, Chief, Marine Fisheries Division

Great Bay National Estuarine Research Reserve

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Beth Heckman, Assistant Education Coordinator
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Jay Sullivan, Naturalist

Other State Agency Representatives

Ted Diers, Manager, New Hampshire Coastal Program, Department of Environmental Services
Sally Soule, New Hampshire Coastal Program, Department of Environmental Services
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Academia

Jonathan Pennock, Director, Marine Program, University of New Hampshire
Jeremy LeClair, University of New Hampshire
Jaimie Wolf, University of New Hampshire

Other Organizations and Representatives

Alice B. Chamberlin, Special Assistant for Policy, Office of the Governor
Richard Langan, CICEET Co-Director
Dwight Trueblood, CICEET Co-Director
Peter Flynn, Chair, Great Bay Stewards
Duane Hyde, The Nature Conservancy, Great Bay Resource Protection Partnership

PERSONS ATTENDING THE PUBLIC MEETING

The public meeting was held on Wednesday, April 28, 2005, at 7:00 p.m., at the New Hampshire Fish and Game Department, Region 3 Office, 225 Main Street, Durham, New Hampshire.

Laura Flynn, Great Bay Stewards
Peter Flynn, Great Bay Stewards
Peggy Mullin, Great Bay Stewards
Joe Stieglitz, Great Bay Stewards
Joyce Marshall, Great Bay Stewards
David Funk, Great Bay Stewards
Barbara Pinto Mauer, UNH Marine Docent
Mary Metcalf, UNH Marine Docent

WRITTEN COMMENTS RECEIVED AND RESPONSES

No written comments were received regarding the management or administration of the Great Bay NERR.

RESPONSE TO PREVIOUS (2002) EVALUATION FINDINGS

NECESSARY ACTION: The GBNERR Research Coordinator should be fully engaged in coordinating and conducting Reserve research activities. Activities should include oversight of the GBNERR monitoring effort. Other tasks should be tied to research assistant coordination and coordinating research and monitoring activities within the Reserve. Within the next review period an advisory team should be established to support the Research Coordinator and research at GBNERR in general. The monitoring contract should be revisited to provide more direct contractual oversight by the Research Coordinator with the Jackson Lab.

Response: The Department has gone through a lengthy process to make this position full time (the RC position held by Brian Smith was half time Marine Fisheries Biologist and half time RC, with the latter paid for by CICEET). This actually involved splitting Brian's old position and creating a new one to be filled by the RC. To do this, the approval of both the Legislature's Fiscal Committee and the Governor and Council was required. The Director personally presented testimony to support this action and we were successful. The position officially begins July 1, 2005. Since it is a "new" position, Brian will have to apply for it and will be considered as an in-house candidate. However, we now have to pay for this position out of the NERRS grant award with half of it coming from CICEET. In terms of his time, Brian has become more and more involved with Reserve activities the past few years. He has established an advisory board that meets regularly and has broadened the number of research activities. This past year, Great Bay had more GRF applicants than any other site. This is a reflection of Brian's efforts to interact with UNH and the research community. We still need to strengthen his oversight role with SWMP.

PROGRAM SUGGESTION: The Department of Fish and Game should position itself to provide "hard" dollars or in-kind services to match federal funds. In doing this it should look at ongoing grounds and building maintenance support as a mechanism for matching the federal dollars. Clearly, minimal general grounds maintenance, structural prevent maintenance, and ongoing maintenance of building and equipment should become a part of the accepted State support.

Response: Little has changed in this area. The Department is now providing minimal maintenance support as compared to the past (grading the driveway, cutting the grass, etc.). However, we continue to still "pay" the Department for larger maintenance projects. As our fixed costs go up, this is becoming more and more difficult. It is unclear exactly what is covered by the indirect charges that our grant covers.

PROGRAM SUGGESTION: GBNERR should assess its staffing needs in light of the responsibilities of expanded programming, increased land holding and the extended management responsibilities required by acquiring more land. To fully tap the resources provided by the Lands Stewards, management support to the Stewards should be broadened. It should then work with the Department of Fish and Game to develop a strategy to appropriately fill new position requirements.

Response: We have done a good job of filling out our staff. We now have now have six full time positions with benefits, including all of the necessary core positions. We also have three part-time positions and two seasonal. However, we are now at full capacity in terms of work load. We have no secretarial, custodial or maintenance staff and this greatly burdens our existing staff.

PROGRAM SUGGESTION: GBNERR should rigorously assess its program offerings and constituency groups with a goal of providing a suite of activities which reach the various constituencies of the State within and outside of the Reserve. Workshops and training series should be developed to bring diverse elements together to support common needs and address unique needs to assure Reserve resources are available for all. Overall land management should become a priority as the boundaries of GBNERR are expanded to accommodate recent acquisitions.

Response: In the past four years, I believe we have greatly broadened our program efforts. Our EC has made an concerted effort to bring in more adult audiences and secondary students (our emphasis in the past has been on primary students). We have added several outstanding programs such as Osprey Stewardship Monitors. Land management has become a top priority. With our new program barn now under construction, this will allow us to expand these programs even more in the years ahead.

PROGRAM SUGGESTION: A member of the GBNERR staff should be tasked with and trained in the development and deployment of a performance indicators program for the Reserve. This could include training in the Performance Indicators Visualization Outreach Tool (PIVOT).

Response: Our SC has been working on this task and did take the PIVOT training. She also is coordinating our GIS efforts to include tracking and displaying performance indicators.

LIST OF ACCOMPLISHMENTS AND RECOMMENDATIONS

ACCOMPLISHMENTS

Operations and Management

- **Staffing:** The Reserve and the Fish and Game Department have obtained a full-time, permanent position for the Research Coordinator and have filled out a fairly complete complement of professional staff. The Reserve now complies with OCRM core Reserve personnel requirements. The staff members are well respected for their technical expertise and knowledge, their ability to develop broad and deep partnerships while maintaining the separate identity of the Reserve, and their exceptional talent to effectively communicate and share their strong commitment to the resources with the public and other partners.
- **Facilities, Facilities Plan, and Infrastructure:** The design and near completion of the Coastal Conservation Center (the “barn”) at the Reserve will significantly enhance its education, outreach, and research activities and programs.
- **Coordination and Partnerships:** As the Great Bay Reserve’s official “friends group,” the Great Bay Stewards play an integral role in the success of a variety of programs at the Reserve and make an essential financial contribution to the operation and management of the Reserve. NOAA recognizes and commends the Stewards for their ongoing partnership.
- **Coordination and Partnerships:** The Great Bay Reserve takes full advantage and does an outstanding job of coordinating with other agencies and entities and forming strong, long-term partnerships with both governmental and non-governmental organizations.

Research and Monitoring

- **Research Activities:** With the creation of a full-time permanent research coordinator, availability of research space at the Coastal Conservation Center (the barn), formal development of a synthesis of research needs, and increased interaction with the larger Great Bay research community, the Reserve has created the tools to expand its current research program.
- **Monitoring Activities:** The Reserve and UNH have improved communication and coordination with regard to conducting the systemwide monitoring program and are addressing some of the points at issue that have arisen as a consequence of the SWMP implementation arrangement.

Education and Outreach

- **Education and Outreach Programs and Volunteer Programs:** The Reserve has an education and outreach program whose offerings are both wide-ranging in topic and rich in content. It has created new programs to serve an even wider audience than before. Reserve staff are intimately involved in the programs but have wisely developed an extensive and volunteer program to greatly supplement the limited number of staff who could not otherwise reach the numerous audiences or conduct the large number of programs.
- **Coastal Training Program (CTP):** The Reserve's Coastal Training Program has completed all preliminary planning documents, received all necessary approvals, and moved into full program implementation. The CTP has wisely chosen to work closely with the Natural Resources Outreach Coalition, which is an effective technical information and training provider to coastal decision makers.

Stewardship and Resource Management

- **Stewardship and Restoration and Resource Management Activities:** The Reserve has established a strong stewardship and restoration program. The Research, Education, and Stewardship Coordinators are collaborating to incorporate science, public education, and community involvement into all aspects of the Reserve's stewardship and natural resource management activities. The Reserve obtained significant funding to conduct restoration activities on Reserve property. It is developing performance indicator monitoring for restoration projects.
- **Land Acquisition:** The State, the Reserve, and the Great Bay Resource Protection Partnership have been extremely successful in acquiring properties within the Great Bay Estuary for resource protection and to prevent inappropriate development.

RECOMMENDATIONS

Operations and Management

- **NECESSARY ACTION (Staffing):** The Reserve, the New Hampshire Fish and Game Department, and any other appropriate state entities (Governor's Office or Legislature, for example) must immediately begin to identify and/or develop a dedicated or more stable non-federal stream for the Reserve's general operation and management. The Reserve must discuss and report on these efforts in each cooperative agreement performance report.
- **NECESSARY ACTION (Facilities, Facilities Plan, and Infrastructure):** The Reserve must be allowed to use the Depot Station. Any policy developed by the Fish and Game Department for use of the Depot Station must be reviewed and approved by NOAA and must be reflected in the Reserve's management plan as well. The Reserve must report on the status of the use of the Depot Station in each cooperative agreement performance report and include a

copy of the facility's use policy in the final management plan submitted no later than six (6) months from the date of these findings.

- **NECESSARY ACTION (Management Plan):** The Reserve must complete and submit a final revised management plan to OCRM within six (6) months of the date of these findings.

Research and Monitoring

- **PROGRAM SUGGESTION (Monitoring Activities):** NOAA encourages the Reserve and UNH to maintain and increase communication and coordination to address the conduct and implementation of the SWMP. The Research Coordinator should maintain active involvement in the program and define and strengthen his oversight role.

Stewardship and Resource Management

- **PROGRAM SUGGESTION (Land Acquisition):** Acquisition of properties for protection of the Great Bay Estuary and for incorporation into the Reserve should be completed in a more timely manner. The State and the Fish and Game Department should devise and implement a mechanism (e.g., hire land agents in the Department, contract out that function) to accomplish timely land transfers from The Nature Conservancy to the FGD.
- **PROGRAM SUGGESTION (Land Acquisition):** The State and the Fish and Game Department should develop a plan to address the financial and staffing issues associated with the long-term management of lands acquired by the state and incorporated into Great Bay Reserve. The Reserve's final management plan should address the issue of long-term land management for newly acquired properties.